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TI Preparation of N-methyl-2-pyrrolidone from .gamma.-butyrolactone and monomethylamine

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AB In prepn. of N-methyl-2-pyrrolidone (I) from .gamma.-butyrolactone (II) and a excess amt. of MeNH₂ (III), III contg. byproducts Me₂NH and Me₃N is sepd. from the reaction mixt. and recycled to the reaction system together with addnl. 3-5 mol (per mol II) H₂O and the reaction mixt. is allowed to react at 240-265.degree.. A mixt. of II, III, and H₂O (III/II molar ratio = 1.08, H₂O/II molar ratio = 4.0) was autoclaved at 255.degree. for 3 h and the reaction mixt. was distd. using three distn. towers. The resulting III soln. (from the first tower) contg. III 3.51 wt.%, Me₂NH 3700 ppm, Me₃N 162 ppm, and NH₃ 733 ppm was treated with II and III under the same condition to give I of APHA (American Public Health Assocn.) value 10 contg. 0.02% II, vs. 10 and 0.23%, resp., for a control at H₂O/II molar ratio 8.5 in the second reaction.

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DT Patent

LA Japanese